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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A method of translating binary code instructions from a source format to a target format for processing by a target processor, said method comprising the steps of:

~~a) Identifying~~identifying a source instruction;

~~b) Selecting~~selecting a translation template corresponding to said identified source instruction, said template providing a set of target ~~format~~ instructions semantically equivalent to said identified source instruction~~; and~~;

~~c) Translating~~translating said identified instruction in accordance with said template;

performing dependency analysis using a Directed-Acyclic-Graph;

generating dependency analysis code using input and output resources named in the template; and

~~d) Outputting~~outputting said translated instruction for processing by said target processor.

2. (Original) A method according to claim 1 in which said source and target instructions include a control part and a data part and said control part being used in said identification step to identify an instruction.

3. **(Currently Amended)** A method according to claim 2 in further comprising a transformation step in which said data part from said source instruction is transformed into said

corresponding data part or parts of said set of target ~~format~~ instructions.

4. (Original) A method according to claim 3 in which said transformation step is carried out in accordance with a bit filling routine associated with said template.

5. (Original) A method according to claim 4 in which said bit filling routine is uniquely associated with said template.

6. (Original) A method according to claim 3 in which said transformation step is arranged to transform data of one type of endianness to data of another type of endianness.

7. (Original) A method according to claim 2 in which said source instruction control parts are each concatenated to provide a unique identifier and said templates are indexed in accordance with said identifiers.

8. (Original) A method according to claim 7 in which said templates are indexed by said unique identifiers in a look up table.

9. (Original) A method according to claim 1 in which said translation is carried out at runtime of an emulated application program.

10. (Original) A method according to claim 1 in which said templates are provided by software procedure calls.

11. (Original) A method according to claim 1 in which said source format is 32 bit and

said target format is 64 bit.

12. (Original) A method according to claim 1 in which said source format is PA-RISC code and said target format is Itanium™ code.

13. **(Currently Amended)** Apparatus for translating binary code instructions from a source format to a target format for processing by a target processor, the apparatus comprising:

~~a) A~~an instruction identifier for identifying a source instruction;

~~b) A~~a template selector for selecting a translation template corresponding to said identified source instruction, said translation template ~~providing~~ comprising a set of target ~~format~~ instructions semantically equivalent to said identified source instruction and further comprising input and output resources; and

~~c) A~~a translator for translating said identified instruction in accordance with said template;

a scheduler that performs dependency analysis using a Directed-Acyclic Graph to represent dependencies;

an analysis routine generator that generates dependency analysis code using the input and output resources named in the template and

~~d) A~~an output buffer for outputting said translated instruction for processing by said target processor.

14. (Original) Apparatus according to claim 13 in which said source and target instructions include a control part and a data part and said instruction identifier uses said control part to identify an instruction.

15. **(Currently Amended)** Apparatus according to claim 14 in which in said translator

is operable to transform said data part from said source instruction into said corresponding data part or parts of said set of target ~~format~~ instructions.

16. (Original) Apparatus according to claim 15 in which said transformation is carried out in accordance with a bit filling routine associated with said template.

17. (Original) Apparatus according to claim 16 in which said bit filling routine is uniquely associated with said template.

18. (Original) Apparatus according to claim 15 in which translator is operable to transform data of one type of endianness into data of another type of end ianness.

19. (Original) Apparatus according to claim 14 in which said source instruction control parts are concatenated to provide a unique identifier and said templates are indexed in accordance with said identifiers.

20. (Original) Apparatus according to claim 19 in which said templates are indexed by said unique identifiers in a look up table.

21. (Original) Apparatus according to claim 13 in which said translation is carried out at runtime of an emulated application program.

22. (Original) Apparatus according to claim 13 in which said templates are provided by software procedure calls.

23. (Original) Apparatus according to claim 13 in which said source code has a 32 bit format and said target code has a 64 bit format.

24. (Original) Apparatus according to claim 13 in which said source code is PA-RISC code and said target code is Itanium™ code.

25. **(Currently Amended)** A computer program product for translating binary code instructions from a source format to a target format for processing by a target processor, comprising a computer-readable medium, further comprising:

~~A template~~a template for use in a binary code translator for translating binary code instructions from a source format to a target format for processing by a target processor, ~~said~~ the template comprising:

~~a) A~~a template identifier for uniquely associating said template to a source instruction~~; and~~;

~~b) A~~a set of target instructions in ~~said~~ a target format semantically equivalent to ~~said~~ the source instruction;

a set of codes for performing dependency analysis using a Directed-Acyclic-Graph; and

a set of codes for generating dependency analysis code using input and output resources named in the template.

26. **(Currently Amended)** A ~~template~~ computer product according to claim 25, further comprising a set of codes causing a computer to derive the ~~in which said source and target instructions in a control part and a data part and said~~ template identifier ~~is derived from said~~ from a control part of ~~said~~ the source instruction.

27. **(Currently Amended)** A ~~template~~ computer product according to claim 26, wherein the ~~in which in said~~ template ~~is associated with a set of instructions to transform said~~ causes a computer to transform a data part ~~from said~~ of the source instruction into ~~said~~ at least one corresponding data part ~~or parts of said~~ of the set of target ~~format~~ instructions.

28. **(Currently Amended)** A ~~template~~ computer product according to claim 27, further comprising a set of codes for causing a computer to bit fill the data part of the source instruction ~~in which said transformation is carried out in accordance with a bit filling routine associated with said template~~.

29. **(Canceled).**

30. **(Currently Amended)** A ~~template~~ computer product according to claim 26, wherein the template causes a computer to create the ~~in which said~~ template identifier ~~is created by the concatenation of~~ by concatenating ~~said~~ the control part of said source instruction.

31. **(Currently Amended)** A ~~template~~ computer product according to claim 25, wherein the template causing a computer to transform a ~~in which said source code has~~ source instruction having a 32 bit format ~~and~~ to a ~~said~~ target ~~code has~~ instruction having a 64 bit format.

32. **(Currently Amended)** A ~~template~~ computer product according to claim 25, wherein the template causes a computer to transform ~~in which said source code is~~ PA-RISC source code ~~and said~~ into ~~target code is~~ Itanium™ target code.

33 **(Currently Amended)** A computer program product for translating binary code instructions from a source format to a target format for processing by a target processor, comprising:

a computer-readable medium, comprising:

a first set of codes for causing a computer to identify a source instruction;

a second set of codes for causing a computer to select a translation template corresponding to said identified source instruction, said template providing a set of target format instructions semantically equivalent to said identified source instruction;

a third set of codes for causing a computer to translate said identified instruction in accordance with said template;

a fourth set of codes for performing dependency analysis using a Directed-Acyclic-Graph;

a fifth set of codes for generating dependency analysis code using input and output resources named in the template; and

a sixth set of codes for causing a computer to output said translated instruction for processing by said target processor.

~~, in accordance with the method of claim 1~~

34-35. **(Canceled).**